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20231, ON 26 March 2003

26 March 2003

DATE  
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ATTORNEY FOR APPLICANTS

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Attorney Docket No.: P51176

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Livi, *et al.* 26 March 2003  
Serial No.: 09/963,990 Group Art Unit: 1632  
Filed: 26 September 2001 Examiner: Peter Paras, Jr.  
For: *Caenorhabditis Elegans* Chemosensory Bioassay for Seven  
Transmembrane Receptor Ligands

Commissioner of Patents  
Washington, D.C. 20231

RESPONSE TO NOTICE OF RESTRICTION  
REQUIREMENT UNDER 37 C.F.R. § 1.143

Sir:

In response to the Office Action mailed 31 January 2003 (herein "Restriction Requirement"), the time for responding to which have been extended to and including March 31, 2003 by the enclosed Petition for Extension of Time and the payment of the requisite fee, the Applicants respectfully request entry into the record of this response. Please charge any additional requisite fees relating to this amendment and response to Deposit Account No. 19-2570.

Claims 1-14 are subject to a restriction requirement. Upon review of the Restriction Requirement provided by the Examiner, the Applicants provisionally elect the subject matter of Group 12, Claims 1-3, and 12, with the phenotype of egg laying defect (Egl), with traverse.

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In a telephone call on Monday, March 24, 2003, the Applicants' undersigned attorney, Ms. Elizabeth Hecht, explained to Examiner Paras why the Applicants respectfully believe that Groups 1-25 in the Restriction Requirement should be rejoined into one group. In response, Examiner Paras informed Ms. Hecht that he would consider such a rejoining of groups if she could explain to him in this response why such a rejoining makes sense with respect to the invention claimed in Claims 1-3 and 12. The Applicants offer the Examiner the following explanation in support of their argument, and they respectfully request reconsideration and modification of the Restriction Requirement under 37 C.F.R. § 1.143.

Claims 1-3 and 12, as filed, claim a method in which a transgenic *C. elegans* is produced that exhibits a known phenotype by the pan-neuronal expression of a human 7TM receptor. Twenty-five potential known phenotypes exhibited by *C. elegans* are listed and claimed in as filed Claim 2. In practice, a *C. elegans* generated in accordance with the method according to Claim 1 expresses the human 7TM pan-neuronally. This *C. elegans* is then evaluated for these twenty-five listed phenotypes. If one or more phenotypes are found in the organism, then that *C. elegans* is employed to evaluate potential antagonists according to the method as claimed in Claim 12.

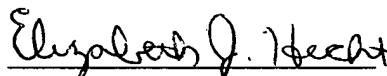
An important aspect of the invention is that the phenotype(s) found in a *C. elegans* produced according to Claim 1 result from the introduction of the transgene encoding the particular human 7TM receptor chosen. That is, the transgene encoding the human 7TM receptor is introduced into a *C. elegans* that initially does not exhibit any of the known phenotypes. The expression of a human 7TM receptor pan-neuronally does not ensure that any one phenotype, or combination of phenotypes, will be exhibited by the *C. elegans* that is expressing the 7TM receptor. In addition, any phenotypes found in the *C. elegans* cannot be predicted in advance, and indeed are not important for the application of the invention. Rather, an important aspect of the invention is that expression of the human 7TM receptor pan-neuronally results in the manifestation of one or more previously characterized phenotypes that can be used as an activity indicator of the human 7TM receptor. Manifestation of such phenotype(s) upon introduction of a pan-neuronally expressed human 7TM receptor into a *C. elegans* is a useful property that, in turn, allows for screening method as claimed in as-filed Claim 12.

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In summary, the actual phenotype manifested in a particular *C. elegans* generated according to Claim 1 is unimportant to the invention. However, for in order to perform the screening method of Claim 12, it is important to include evaluate the generated *C. elegans* for a broad range of phenotypes. Each human 7TM receptor will have a different activity spectrum when expressed pan-neuronally in a *C. elegans*. The consequence of this activity cannot be predicted, but may result one or more consistent phenotypes that can be readily scored. The identification of a phenotype, which could be drawn from a large number of 25 known phenotypes, is an important part of the invention. For the forgoing reasons, the Applicants respectfully submit that the inventions encompassed by Groups 1-25 are not distinct. Accordingly, the Applicants respectfully request that the Examiner rejoin Groups 1-25, as set forth in the Restriction Requirement, into a single group.

Applicants retain the right to file divisional applications on the non-elected subject matter, should the restriction requirement become final. If it would expedite the prosecution of this application, the Examiner is invited to confer with the Applicant's undersigned attorney by telephone.

Respectfully submitted,



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